

Date: Friday, 24/04/2009 12:40:38 PM
 User: Julie Dawson

Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services	Drawing Name	: WHEEL SHAFT
Job Number	: 47470		
Estimate Number	: 10449		
P.O. Number	:	Part Number	: D33341
This Issue	: 24/04/2009	S.O. No.	:
Prsht Rev.	: NC	Drawing Number	: D3334 REV. C
First Issue	: / /	Project Number	: N/A
Previous Run	: 46043	Drawing Revision	: C
Written By	:	Material	:
Checked & Approved By	: <u>JULIE DAWSON</u>	Due Date	: 10/05/2009
Comment	Est: B 05.03.02 Revised material; Added Powder Coat KJ/J LM Est Rev:C Now on Doosan Lathe 08-03-06 JLM Verified By:EC Est Rev:D Now Rev C 08-05-14 JLM Verified By:DD		

14 9m
 8 Um: Each

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
----------------	------------------------------	----------------------

1.0	M4140HR3500	4140 RD bar 3.500
-----	-------------	-------------------



Comment: Qty.: 0.6563 f(s)/Unit Total: 5.2504 f(s)

4140 HEAT TREATED BAR

Material: AISI 4140 or ASTM A304-02/A-434-BC/A193-03-Grade-B7/A29-03/A322-91 or UNS# G41400

(M4140H-R3.500)

Batch: 1111027

mk 09/04/26

2.0	BAND SAW	BAND SAW
-----	----------	----------



Comment: BAND SAW

1- Cut blanks: Ø3.500" Bar to 7.750" long

mk 09/04/26

3.0	DOOSAN LATHE	DOOSAN LATHE
-----	--------------	--------------



Comment: DOOSAN LATHE

1- Turn and Mill as per Folio FA492 and Dwg D3334

2- Deburr

Test Thread with Test Nut for every part

mk 09/04/27

4.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	----------------------------------------



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

mk 09/04/27

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Friday, 24/04/2009 12:40:38 PM
User: Julie Dawson

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: WHEEL SHAFT

Job Number: 47470

Part Number: D33341

Job Number:



Seq. #:

Machine Or Operation:

Description :

5.0

QC8

SECOND CHECK



(14)



Comment: SECOND CHECK

mw

09/05/01

N.A

09/05/01

6.0

POWDER COATING

POWDER COATING



m102391



Comment: POWDER COATING

Powder Coat Fire Red (Ref: 4.3.5.10) as per QSI 005 4.3

Mask thread and bearing surface

START TIME:

8:45

OVEN TEMPERATURE:

320°

FINISH TIME:

9:15

FL 09/05/06

(14)

7.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

FL

09-05-06

(14)

8.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location:

Cut

9/5/08

(14)

SP

9.0

QC21

FINAL INSPECTION/W/O RELEASE



Comment: FINAL INSPECTION/W/O RELEASE

09/05/11

Job Completion



MF

09-05-08

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order: 47470
Description: Wheel Shaft		Part Number: D3334-1
Inspection Dwg: D3334	Rev: C	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
0.94	+/-0.030	.946	✓			
0.200	+/-0.010	.206	✓			
Ø0.129	+0.005/-0.000	Ø.130	✓			
4.740	+0.000/-0.030	4.731	✓			
1.04	+/-0.030	1.045	✓			
Ø1.750	+/-0.010	1.750	✓			
0.750	+/-0.010	.748	✓			
1.180	+0.000/-0.002	1.1787	✓			
2.250	+/-0.005	2.250	✓			
1.125	+/-0.010	1.125	✓			
3.060	+/-0.010	3.060	✓			
Ø0.386	+0.006/-0.001	Ø.386	✓			
1.300	+/-0.005	1.298	✓			
Ø3.470	+/-0.010	3.475	✓			

Measured by: <i>[Signature]</i>	Audited by: <i>mm5/H.A</i>	Prototype Approval: N/A
Date: 09/04/27	Date: 09/05/01	Date: N/A

Rev	Date	Change	Revised by	Approved
A	05.04.26	New Issue	KJ/JLM	
B	08.05.06	Tolerance for dimension Ø0.386 revised	KJ/DD	
C	08.05.14	Dimensions updated per Dwg Rev C	KJ/JLM <i>[Signature]</i>	<i>[Signature]</i>

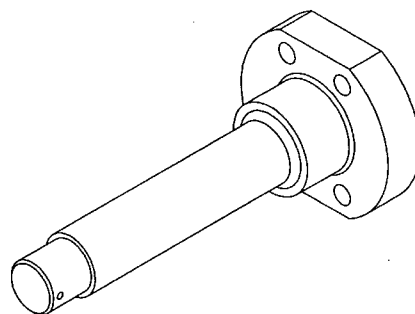
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3334-1 WHEEL SHAFT

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 47470

NOTES:

- 1) MATERIAL: AISI -4140 OR ASTM A304-02/ A-434-BC/ A193-03-GRADE-B7/ A29-03/ A322-91
OR: UNS#-G41400
(REF. DART SPEC. M4140H-R3.500)
- 2) FINISH: POWDER COAT COLOUR FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.010 TO 0.020 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3334-1" USING FINE POINT PERMANENT INK MARKER
- 7) WEIGHT: 4.03 lbs

RELEASED
08-05-13

C	INCORPORATED B1 (Ø 3.470 WAS 3.500) REFORMAT TO CURRENT STANDARDS. TOP VIEW ADDED. ZN C3-2 7.47 REF WAS 7.468. ZN B3-2 THREAD CALL OUT WAS 1-14 UNF. ZN C5-2 COTTER PIN HOLE LOCATION (RADIAL) CHANGED TO SHOP OPTION.	AJS	08.05.12
B	REDESIGN TO FIT NEW WHEEL ASSY.	MB	05.02.18
A	NEW ISSUE	MB	04.12.16
REV	DESCRIPTION	BY	DATE
DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO.	REV. C
MFG. APPR.		D3334	SHEET 1 OF 2
APPROVED		TITLE	SCALE
DE APPR.		WHEEL SHAFT	NTS
DATE	08.05.12	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

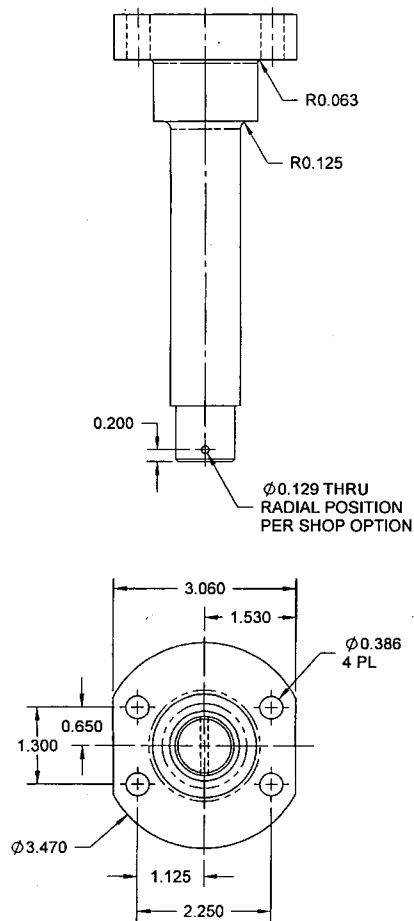
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

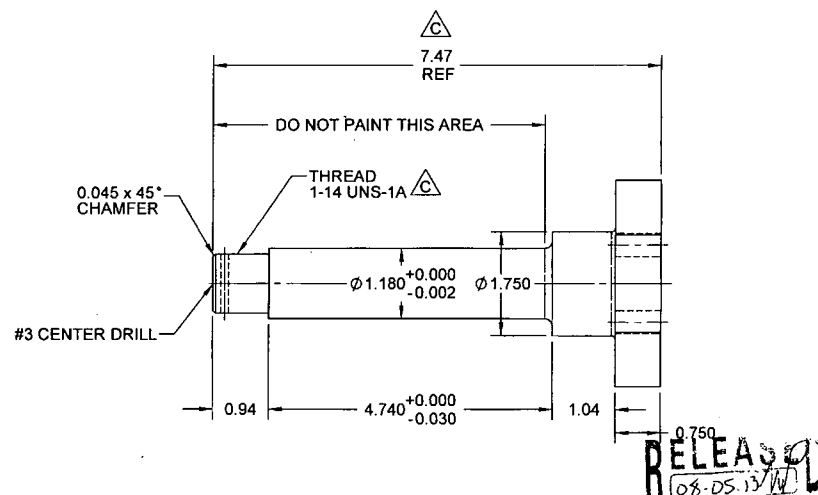
Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D3334-1 WHEEL SHAFT



DESIGN	MB	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	AJS		
CHECKED		DRAWING NO. D3334	REV. C
MFG. APPR.		TITLE WHEEL SHAFT	SHEET 2 OF 2
APPROVED		SCALE NTS	
DE APPR.	N/A	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	
DATE	08.05.12		

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 419270

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries